

In the Sequence Listing:

Please enter the enclosed Sequence Listing. Applicants herewith provide: (1) a computer-readable version in paper, and (2) a computer readable diskette containing the sequence listing.

**Appendix 5**  
**Sequence Listing in Computer Readable Form (Paper)**

## SEQUENCE LISTING

<110> Neuren Pharmaceuticals

<120> Somatogenic Therapy Using a 20 kDa Placental Variant of Growth Hormone

<130> ERNZ01082US3

<140> 10/568,573

<140> PCT/US2004/027187

<141> 2004-08-19

<150> 60/499,956

<151> 2003-09-03

<160> 8

<170> PatentIn version 3.3

<210> 1

<211> 654

<212> DNA

<213> Homo sapiens

<400> 1

atggctgcag gctcccgac gtccctgctc ctggctttg gcctgctctc gctgtcctgg 60

cttcaagagg gcagtgcctt cccaaaccatt cccttatcca ggcttttga caacgctatg 120

ctccgcgccc gtcgcctgta ccagctggca tatgacacacct atcaggagtt tgaagaagcc 180

tatatcctga aggagcagaa gtattcattc ctgcagaacc cccagacctc cctctgcttc 240

tcagagtcta ttccaacacc ttccaacagg gtgaaaacgc agcagaaatc taacctagag 300

ctgctccgca tctccctgct gctcaactcag tcatggctgg agcccggtgca gtcctcagg 360

agcgtcttcg ccaacagcct ggtgtatggc gcctcgacca gcaacgtcta tcgcccacctg 420

aaggacctag aggaaggcat ccaaacgctg atgtggaggc tggaaagatgg cagccccgg 480

actgggcaga tcttcaatca gtcctacagc aagttgaca caaaatcgca caacgatgac 540

gcactgctca agaactacgg gctgctctac tgcttcagga aggacatgga caaggctcgag 600

acattcctgc gcacatcgacca gtgccgtct gtggaggggca gctgtggctt cttag 654

<210> 2

<211> 654

<212> DNA

<213> Homo sapiens

<400> 2

atggctacag gctcccgac gtccctgctc ctggctttg gcctgctctc gctgcctgg 60

cttcaagagg gcagtgcctt cccaaaccatt cccttatcca ggcttttga caacgctatg 120

ctccgcgccc atcgtctgca ccagctggcc tttgacacacct accaggagtt tgaagaagcc 180

tatatcctag aagagcagaa gtattcattc ctgcagaacc cccagacctc cctctgtttc 240

tcagagtcta ttccgacacc ctccaacagg gagaaacac aacagaaatc caacctagag 300

ctgctccgca tctccctgct gctcaactcag tcatggctgg agcccggtgca gtcctcagg 360

|            |            |            |             |            |             |     |
|------------|------------|------------|-------------|------------|-------------|-----|
| agtgtcttcg | ccaacagcct | ggtgtacggc | gcctctgaca  | gcaacgtcta | tgaccctccta | 420 |
| aaggacctag | aggaaggcat | ccaaacgctg | atggggagggc | tggaagatgg | cagccccgg   | 480 |
| actgggcaga | tcttcaagca | gacctacagc | aagttcgaca  | caaactcaca | caacgatgac  | 540 |
| gcactactca | agaactacgg | gctgctctac | tgcttcagga  | aggacatgga | caaggtcgag  | 600 |
| acattcctgc | gcatcgtgca | gtgccgctct | gtggagggca  | gctgtggctt | ctag        | 654 |

<210> 3  
<211> 609  
<212> DNA  
<213> Homo sapiens

|         |            |             |             |             |             |             |     |
|---------|------------|-------------|-------------|-------------|-------------|-------------|-----|
| <400> 3 | atggctgcag | gctccggac   | gtccctgctc  | ctggctttg   | gcctgctctc  | gctgtcctgg  | 60  |
|         | cttcaagagg | gcagtgcctt  | cccaaccatt  | cccttatcca  | ggcttttga   | caacgctatg  | 120 |
|         | ctccgcgccc | gtcgctgtta  | ccagctggca  | tatgacacact | atcaggagtt  | taaccccccag | 180 |
|         | acctccctct | gcttctcaga  | gtctattcca  | acaccttcca  | acagggtgaa  | aacgcagcag  | 240 |
|         | aaatctaacc | tagagctgct  | ccgcattctcc | ctgctgctca  | ctcagtcattg | gctggagccc  | 300 |
|         | gtgcagctcc | tcaaggagcgt | cttcgccaac  | agcctggtgt  | atggcgccctc | ggacagcaac  | 360 |
|         | gtctatcgcc | acctgaagga  | cctagaggaa  | ggcatccaaa  | cgctgatgtg  | gaggctggaa  | 420 |
|         | gatggcagcc | cccggaactgg | gcagatcttc  | aatcagtcct  | acagcaagtt  | tgacacaaaa  | 480 |
|         | tcgcacaacg | atgacgcact  | gctcaagaac  | tacgggctgc  | tctactgctt  | caggaaggac  | 540 |
|         | atggacaagg | tgcagacatt  | cctgcgcattc | gtgcagtgcc  | gctctgtgga  | gggcagctgt  | 600 |
|         | ggcttctag  |             |             |             |             |             | 609 |

<210> 4  
<211> 609  
<212> DNA  
<213> Homo sapiens

|         |            |             |             |             |             |             |     |
|---------|------------|-------------|-------------|-------------|-------------|-------------|-----|
| <400> 4 | atggctacag | gctccggac   | gtccctgctc  | ctggctttg   | gcctgctctc  | gctgcctgg   | 60  |
|         | cttcaagagg | gcagtgcctt  | cccaaccatt  | cccttatcca  | ggcttttga   | caacgctatg  | 120 |
|         | ctccgcgccc | atcgctgtca  | ccagctggcc  | tttgacacact | accaggagtt  | taaccccccag | 180 |
|         | acctccctct | gtttctcaga  | gtctattccg  | acacccctcca | acagggagga  | aacacaacag  | 240 |
|         | aaatccaacc | tagagctgct  | ccgcattctcc | ctgctgctca  | ctcagtcgtg  | gctggagccc  | 300 |
|         | gtgcagtctc | tcaaggagtgt | cttcgccaac  | agcctggtgt  | acggcgccctc | tgacagcaac  | 360 |
|         | gtctatgacc | tcctaaagga  | cctagaggaa  | ggcatccaaa  | cgctgatggg  | gaggctggaa  | 420 |
|         | gatggcagcc | cccggaactgg | gcagatcttc  | aagcagacact | acagcaagtt  | cgacacaaaa  | 480 |
|         | tcacacaacg | atgacgcact  | actcaagaac  | tacgggctgc  | tctactgctt  | caggaaggac  | 540 |
|         | atggacaagg | tgcagacatt  | cctgcgcattc | gtgcagtgcc  | gctctgtgga  | gggcagctgt  | 600 |
|         | ggcttctag  |             |             |             |             |             | 609 |

<210> 5  
<211> 191  
<212> PRT  
<213> Homo sapiens

<400> 5

Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn Ala Met Leu Arg  
1 5 10 15

Ala Arg Arg Leu Tyr Gln Leu Ala Tyr Asp Thr Tyr Gln Glu Phe Glu  
20 25 30

Glu Ala Tyr Ile Leu Lys Glu Gln Lys Tyr Ser Phe Leu Gln Asn Pro  
35 40 45

Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr Pro Ser Asn Arg  
50 55 60

Val Lys Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu Arg Ile Ser Leu  
65 70 75 80

Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Leu Leu Arg Ser Val  
85 90 95

Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser Asn Val Tyr Arg  
100 105 110

His Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu Met Trp Arg Leu  
115 120 125

Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Asn Gln Ser Tyr Ser  
130 135 140

Lys Phe Asp Thr Lys Ser His Asn Asp Asp Ala Leu Leu Lys Asn Tyr  
145 150 155 160

Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys Val Glu Thr Phe  
165 170 175

Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser Cys Gly Phe  
180 185 190

<210> 6  
<211> 191  
<212> PRT  
<213> Homo sapiens

<400> 6

Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn Ala Ser Leu Arg  
1 5 10 15

Ala His Arg Leu His Gln Leu Ala Phe Asp Thr Tyr Gln Glu Phe Glu

20

25

30

Glu Ala Tyr Ile Pro Lys Glu Gln Lys Tyr Ser Phe Leu Gln Asn Pro  
35 40 45

Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr Pro Ser Asn Arg  
50 55 60

Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu Arg Ile Ser Leu  
65 70 75 80

Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Phe Leu Arg Ser Val  
85 90 95

Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser Asn Val Tyr Asp  
100 105 110

Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu Met Gly Arg Leu  
115 120 125

Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Lys Gln Thr Tyr Ser  
130 135 140

Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala Leu Leu Lys Asn Tyr  
145 150 155 160

Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys Val Glu Thr Phe  
165 170 175

Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser Cys Gly Phe  
180 185 190

<210> 7  
<211> 176  
<212> PRT  
<213> Homo sapiens

<400> 7

Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn Ala Met Leu Arg  
1 5 10 15

Ala Arg Arg Leu Tyr Gln Leu Ala Tyr Asp Thr Tyr Gln Glu Phe Asn  
20 25 30

Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr Pro Ser Asn  
35 40 45

Arg Val Lys Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu Arg Ile Ser  
50 55 60

Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Leu Leu Arg Ser  
65 70 75 80

Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser Asn Val Tyr  
85 90 95

Arg His Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu Met Trp Arg  
100 105 110

Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Asn Gln Ser Tyr  
115 120 125

Ser Lys Phe Asp Thr Lys Ser His Asn Asp Asp Ala Leu Leu Lys Asn  
130 135 140

Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys Val Glu Thr  
145 150 155 160

Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser Cys Gly Phe  
165 170 175

<210> 8  
<211> 176  
<212> PRT  
<213> Homo sapiens

<400> 8

Phe Pro Thr Ile Pro Leu Ser Arg Leu Phe Asp Asn Ala Ser Leu Arg  
1 5 10 15

Ala His Arg Leu His Gln Leu Ala Phe Asp Thr Tyr Gln Glu Phe Asn  
20 25 30

Pro Gln Thr Ser Leu Cys Phe Ser Glu Ser Ile Pro Thr Pro Ser Asn  
35 40 45

Arg Glu Glu Thr Gln Gln Lys Ser Asn Leu Glu Leu Leu Arg Ile Ser  
50 55 60

Leu Leu Leu Ile Gln Ser Trp Leu Glu Pro Val Gln Phe Leu Arg Ser  
65 70 75 80

Val Phe Ala Asn Ser Leu Val Tyr Gly Ala Ser Asp Ser Asn Val Tyr  
85 90 95

Asp Leu Leu Lys Asp Leu Glu Glu Gly Ile Gln Thr Leu Met Gly Arg  
100 105 110

Leu Glu Asp Gly Ser Pro Arg Thr Gly Gln Ile Phe Lys Gln Thr Tyr  
115 120 125

Ser Lys Phe Asp Thr Asn Ser His Asn Asp Asp Ala Leu Leu Lys Asn  
130 135 140

Tyr Gly Leu Leu Tyr Cys Phe Arg Lys Asp Met Asp Lys Val Glu Thr  
145 150 155 160

Phe Leu Arg Ile Val Gln Cys Arg Ser Val Glu Gly Ser Cys Gly Phe  
165 170 175